



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

August 21, 1996

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports

Dear Sir:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form".

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

1.5. abay/20

A. S. Abay

c: JAWenker - UCP
 Local Emergency Planning Committee (LEPC)
 National Response Center (NRC)
 Mr. David Howecamp - USEPA

Enclosure

DAB/rec File: 34040-104 q:\dab\mtbe_304.doc

Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 6451 Rosedale Highway Bakersfield, CA 93308		Facility Emerg Ms. Anita Burke Manager Enviro Phone: (805) 3	e onment, Health and Safety	
RELEASE INFORMATION				
Name and CAS Number of Substance Rele	ased:	Extremely	/ Hazardous:	
Methyl tert-butyl ether CAS# 1634-04-4		Yes		
Physical State Stored:	Physical State Release	ed: Quantity	Released:	•
Solid	Solid	14300	lbs.	•
Liquid	Liquid		gal.	
Gas	Gas		cu. ft.	
	Gas	_	j cu. it.	
Environmental Contamination:	Time and Date of Release	ase: Duration	of Release:	
☐ Air	07/23/96 03:20 PM	0 Days 4 F	tours 40 Min.	
Water				
Ground				
Other				
Other .				
Time OES Notified: OES Control	Number: Time	NRC Notified:	NRC Control Number:	
07/23/96 04:45 PM 014788	7/23/9	96 4:40 pm	353088	
ACTIONS TAKEN At approximately 3:20pm, a failure occurred at opened. Railcar NATX 29120 released MTBE The operator stopped unloading MTBE, evacu The Bakersfield Plant's response team, along They used water and foam to reduce the risk opressure on the railcar.	liquid as the pressure in a ated the unloading rack ar with Kern County firefighte	the railcar pushed MTB and sounded the alarm. ers and the hazardous r	E up the drain pipe and out through	the valve body to the leak.
KNOWN OR ANTICIPATED HEALTH	FEFECTS			
Prolonged overexposure may cause coughing, known or anticipated health effects since no in	shortness of breath, dizzi	iness and intoxication.	May produce skin or eye irritation. T	here were no
ADVICE REGARDING MEDICAL ATT Medical attention was not required since no inc		Y FOR EXPOSED !	NDIVIDUALS:	
COMMENTS ARCO Chemical, the MTBE seller, contracts this incident. The operator reported that the value of the contract of the	he railcars. It is Texaco's live threads were unusual	belief that maintenance ly rusty.	on railcar NATX 29120 was inadeq	uate to preven
CERTIFICATION: I certify under penalty o submitted information is true, accurate and con	mplete.		iliar with the information submitted a	nd believe the
Reporting Facility Representative (print or type	Linda L)avns		
Signature of Reporting Facility Representative	Linda I Linda	Davis	Date 8/2	1/96



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

September 3, 1996

RECEIVED

-8-3014

SEP 06 1996

Air & Toxics Division U.S. EPA, Region 9

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports

Dear Sir:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form".

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

c: JAWenker - UCP

Local Emergency Planning Committee (LEPC)

National Response Center (NRC)

Mr. David Howecamp - USEPA

Enclosure

DAB/rec File: 34040-104 q:\dab\pwr_304.doc

FACILITY INFORMATION Facility Emergency Contact: Location of Release: Ms. Anita Burke Texaco Refining and Marketing Inc. **Bakersfield Plant** Manager Environment, Health and Safety Phone: (805) 326-4200 6451 Rosedale Highway Bakersfield, CA 93308 **RELEASE INFORMATION** Name and CAS Number of Substance Released: **Extremely Hazardous:** Yes Nitrogen Dioxide CAS# 10102-44-0 **Quantity Released: Physical State Released: Physical State Stored:** 1200 X lbs. Solid Solid Liquid Liquid **Duration of Release: Environmental Contamination:** Time and Date of Release: ⊠ Air 07/30/96 09:50 AM 0 Days 0 Hours 25 Min. Water Ground Other **OES Control Number:** Time NRC Notified: **NRC Control Number:** Time OES Notified: 07/30/96 11:29 AM 354043 014882 07/30/96 11:30 AM **ACTIONS TAKEN** Ammonia was released to the flare as a result of a power outage. All of the ammonia was burned by the flare and converted to NOx. When power was restored, ammonia was no longer sent to the flare. KNOWN OR ANTICIPATED HEALTH EFFECTS Exposure to high concentrations may result in pulmonary problems. Texaco has no information to indicate that individuals were exposed. There were no known health effects from this release. ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS Texaco has no information to indicate that medical attention was required. **COMMENTS** A breakdown report was faxed to the SJVUAPCD at 9:45 AM (7/30/96). CERTIFICATION: I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type)
Signature of Reporting Facility Representative

FACILITY INFORMATION Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 6451 Rosedale Highway Bakersfield, CA 93308		Facility Emergency Contact: Ms. Anita Burke Manager Environment, Health and Phone: (805) 326-4200	Safety
RELEASE INFORMATION			
Name and CAS Number of Substance Rele	eased:	Extremely Hazardous:	
Sulfur Dioxide CAS # 7446-09-5		Yes	
Physical State Stored:	Physical State Released:	Quantity Released:	
Solid	Solid	1800 🔯 lbs.	•
Liquid	Liquid	gal.	
Gas	☐ Gas	u. ft.	
Environmental Contamination:	Time and Date of Release:	Duration of Release:	
⊠ Air	07/30/96 09:50 AM	0 Days 0 Hours 25 Min.	
∐ Water			
Ground			
Other			
Time OES Notified: OES Control 07/30/96 11:30 AM 014882	Number: Time NRC NA	Notified: NRC Control N	umber:
ACTIONS TAKEN Acid gas was released to the flare as a result	of a power outage. When power	was restored, acid gas was returned	d to the sulfur recovery unit.
KNOWN OR ANTICIPATED HEALTH Exposure to high concentrations may result in no known health effects from this release.	EFFECTS pulmonary edema. Texaco has	no information to indicate that individ	luals were exposed. There were
	* * 4		
ADVICE REGARDING MEDICAL ATT Texaco has no information to indicate that me		R EXPOSED INDIVIDUALS	
COMMENTS Breakdown report was faxed to the SJVUAPO	CD at 9:45 AM (7/30/96).		
CERTIFICATION: I certify under penalty of submitted information is true, accurate and co	mplete.		•
Reporting Facility Representative (print or type	e) A NITA M. F	SURVE jor TRM	
Signature of Reporting Facility Representative	Anita Rume	for TRMI	Date 9.3.96



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232 RECEIVED
SEP 1 3 1996

Air & Toxics Division U.S. EPA, Region 9

September 6, 1996

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports

Dear Sir:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form".

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

c: JAWenker - UCP
 Local Emergency Planning Committee (LEPC)
 National Response Center (NRC)
 Mr. David Howecamp - USEPA

Enclosure

DAB/rec File: 34040-104 q:\dab\pwr_304.doc

FACILITY INFORMATION Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 6451 Rosedale Highway Bakersfield, CA 93308		Facility Emergency Contact: Ms. Anita Burke Manager Environment, Health and Phone: (805) 326-4200	I Safety
RELEASE INFORMATION		•	
Name and CAS Number of Substance Rele	eased:	Extremely Hazardous:	
Nitrogen Dioxide CAS# 10102-44-0		Yes	
Physical State Stored:	Physical State Released:	Quantity Released:	
Solid	Solid	1217 🛚 lbs.	
Liquid	Liquid	🔲 gal.	
Gas	Gas	cu. ft.	
Environmental Contamination:	Time and Date of Release:	Duration of Release:	
Air	08/10/96 04:00 PM	0 Days 0 Hours 5 Min.	
<u></u> Water □			
∐ Ground			
Other			
Time OES Notified: OES Control 08/12/96 03:30 PM 015081	Number: Time NRC 8/10/96 5:39		lumber:
ACTIONS TAKEN Ammonia was released to the flare as the result was restored, ammonia was no longer sent to	ult of a power outage. All of the a the flare.	ammonia was burned by the flare ar	nd converted to NOx. When powe
KNOWN OR ANTICIPATED HEALTH Exposure to high concentrations may result in were no known health effects from this releas	pulmonary problems. Texaco h	as no information to indicate that in	dividuals were exposed. There
ADVICE REGARDING MEDICAL ATT Texaco has no information to indicate that me	TENTION NECESSARY FO dical attention was required.	R EXPOSED INDIVIDUALS	
COMMENTS A breakdown report was submitted to the SJ\	/UAPCD.		*
CERTIFICATION: 1 certify under penalty of submitted information is true, accurate and co	omplete.		
Reporting Facility Representative (print or type	e) HniTA M. Bu	HULE, fOR TRMIB	KP
Signature of Reporting Facility Representative	· Amila Kunu	MILLE, JOR TRMIB	Date <u>9-7-9C</u>

FACILITY INFORMATION

Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 6451 Rosedale Highway Bakersfield, CA 93308	Ms. Anita Burke Ms. Anita Burke Manager Environment, Health and Safety Phone: (805) 326-4200			
RELEASE INFORMATION	•			
Name and CAS Number of Substance	Released:	Extremely Hazardous:		
Sulfur Dioxide CAS # 7446-09-5		Yes		
Physical State Stored:	Physical State Released:	Quantity Released:		
Solid	Solid	3918 🔀 lbs.		
Liquid	Liquid	gal.		
Gas	Gas	Cu. ft.		
∠ Gas	Z Gas	· · · · · · · · · · · · · · · · · · ·		
Environmental Contamination:	Time and Date of Release	: Duration of Release:	•	
⊠ Air	08/10/96 04:00 PM	0 Days 0 Hours 5 Min.		
Water				
Ground				
Other				
Time OES Notified: OES Cor	itioi italiasi.	C Notified: NRC Control Number:	,	
08/12/96 03:30 PM 015081	, NA	NA		
was restarted once the power was restor	ed. _TH EFFECTS ult in pulmonary edema. Texaco l	was flared resulting in excess SO2 emissions from the second seco		
ADVICE REGARDING MEDICAL Texaco has no information to indicate that				
COMMENTS Breakdown report was submitted to the S	SJVUAPCD.			
submitted information is true, accurate a	nd complete.	amined and am familiar with the information subm		
Reporting Facility Representative (print of	ortype) Anya M. Bull	LE for TRMI-BILP		
	And the North	10 La TRANI BAR Q. Date	9.7.96	





Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

September 24, 1996

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control # 015557

Dear Sir:

Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, in compliance with the Office of Emergency Services, is enclosing an "Emergency Release Follow-up Notice Reporting Form" pertaining to the September 12-13, 1996 reportable release of sulfur dioxide from the Area 1 SRU Incinerator.

If you have questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

Enclosure ASA/JTW/vesp

c: JAWenker - UCP
 Kern County Environmental Health (LEPC)
 Kern County Hazmat Response (RMP)
 Mr. David Howecamp - USEPA
 AMBurke, LGDavis, DABeck, JTWellspring, BkP

File: 34040-104 q:\jtw\0912_304.doc Charles 10-8

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yes CSB 1910 Seet

304

RECEIVED

SEP 3 0 1996

Air & Toxics Division U.S. EPA, Region 9

FACILITY INFORMATION

Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 6451 Rosedale Highway Bakersfield, CA 93308 Facility Emergency Contact:

Extremely Hazardous:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RFI	FASE	INFORMAT	ION

Name and CAS Number of Substance Released:

			•
Sulfur Dioxide CAS # 7446-	09-5	Yes	•
Physical State Stored: Solid Liquid Gas.	Physical Sta Solid Liquid Gas	te Released: Quant	ity Released: ibs. gal. cu. ft.
Environmental Contamination	n: Time and Da	nte of Release: Durati	on of Release:
Air Water Ground Other	09/12/96 12	2:00 AM 1 Day	s 4 Hours 0 Min.
Time OES Notified:	OES Control Number:	Time NRC Notified:	NRC Control Number
09/13/96 02:00 PM	015557	NA	NA

ACTIONS TAKEN

Emissions were the result of planned shutdown of the Area 1 sulfur recovery unit to perform sulfur stripping activities necessary prior to replacement of catalyst. An air permit variance was obtained from the SJVUAPCD prior to performance of the work. The catalyst stripping phase of this work was completed at 4:00 AM on 09/13/96. The reportable quantity was exceeded due to the sum of excess (above permit limit) sulfur dioxide emissions during the 28 hour stripping process. Variance emission limits were not exceeded.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Vapor is irritating to eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. TRMI has no information to indicate that any individuals were exposed to irritating concentrations as a result of this release.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

Excess emissions reports have been submitted to the SJVUAPCD.

CERTIFICATION: I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type)

Anita M. Burke for TRMI Bakersfield Plant

Signature of Reporting Facility Representative

for TRMI Bakersfield Plant

Date

9.24.96



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

> <u>Certified Mail</u> P 878 313 429

December 4, 1996

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control # 016681

Dear Sir:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form" pertaining to the November 26, 1996 reportable release of sulfur dioxide from the Area 3 Refinery Flare. This release was reported to the OES on 11/26/96.

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Auay

Enclosure

c: Kern County Environmental Health (LEPC)
Kern County Hazmat Response (RMP)
National Response Center (NRC)
Ms. Julie Anderson c/o Lauren Volpini- USEPA
JAWenker - UCP
AMBurke, LGDavis, DABeck, JTWellspring, BkP

JTW/rec File: 34040-104 q:\jtw\1126_304.doc

FACILITY INFORMATION Location of Release: Texaco Refining and Marketing Inc. Bakersfield Plant 3663 Gibson Street Facility Emergency Contact: Ms. Anita M. Burke Manager Environment, Health and Safety Phone: (805) 326-4200

RELEASE INFORMATION		F. Avenue II. Henrydevier
Name and CAS Number of Substance Rele	eased:	Extremely Hazardous:
Sulfur Dioxide CAS # 7446-09-5		Yes
Physical State Stored:	Physical State Released:	Quantity Released:
Solid Liquid. Gas. Environmental Contamination:	Solid Liquid Gas Time and Date of Release:	773 lbs. gai. cu. ft. Duration of Release:
Air Water Ground Other	11/26/96 09:14 AM	O Days O Hours 26 Min.

Time OES Notified:

OES Control Number:

Time NRC Notified:

NRC Control Number:

11/26/96 11:40 AM

Bakersfield, CA 93308

016681

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ACTIONS TAKEN

Acid Gas was routed to the flare from the SRU#2 as a result of an SRU shutdown. The SRU shut itself down due to a high temperature reading from a infrared temperature indicator. The temperature indicator malfunctioned. Once the temperature reading was determined to be erroneous, the temperature indicator was repaired and the SRU was immediately restarted.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

A breakdown report was submitted to the SJVUAPCD. Marty Brownfield with Environmental Health was notified by phone at 12:00 PM. Dacia Young was the contact at COES.

CERTIFICATION: I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Anita M.

Reporting Facility Representative (print or type)

ative 🛨

te for TRIVII Bakersheig Flant

Tata 12.4-96

Signature of Reporting Facility Representative

for TRIMI Bakersfield Plant



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

> Certified Mail P 878 313 406 RECEIVED

> > FEB 3 1997

Air & Toxics Division U.S. EPA: Region 9

January 28, 1997

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control No. 017188

To whom it may concern:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form" pertaining to the December 31, 1996 reportable release of sulfur dioxide from the Area 3 Flare.

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

Enclosure

c: JAWenker - UCP
Kern County Environmental Health (LEPC)
Kern County Hazmat Response (RMP)
Mr=David Howecamp - USEPA
AMBurke, LGDavis, DABeck, EXSekiguchi, BkP

EXS/rec File: 34040-104 q:\exs\1231_304.doc

FACILITY INFORMATION

Location of Release:

Texaco Refining and Marketing Inc.

Bakersfield Plant 3663 Gibson Street Bakersfield, CA 93308 Facility Emergency Contact:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RELEASE INFORMATION

Name and CAS Number of Substance Released: Sulfur Dioxide CAS #7446-09-5

Extremely Hazardous: Yes Physical State Stored: Gas

Contamination Pathway: Air Physical State Released: Gas

Date/Time of Release: 12/31/96 02:40 PM

Duration of Release: 0 Days 0 Hours 28 Minutes

Quantity Released: 767.2 lbs.

NOTIFICATIONS

Agency	Notification Date/Time	Control Number	Contact Person
National Response Center	NA		
Office of Emergency Services	12/31/96 03:50 PM	017188	·
Dept. of Environmental Health	12/31/96 03:50 PM	. NA	Marty Brownfield

TRMI submitted a Breakdown Report to the SJVUAPCD: Yes

CAUSE OF RELEASE AND ACTIONS TAKEN

Power was lost to the sulfur recovery unit (SRU) burner management panel due to a false level indication in the boiler condenser. This caused the SRU to shut down and acid gas was sent to the flare.

The level indicator was calibrated, the taps were pumped, and the SRU was brought back up.

KNOWN OR ANTICIPATED HEALTH EFFECTS

SO2 gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type)

Anita M. Burke for TRMI Bakersfield Plant

Signature of Reporting Facility Representative

MUTor TRMI Bakersfield Plant Date 1.28.97

Estimation of SO₂ Emissions During Acid Gas Flaring Episode 12/31/96 Area 3 SRU Shutdown

Flow to Flare:

Assumptions:

- $-V_{pg} = 0.75 Mscf/hr$
- H2S content of of gas sent to flare is 802,000 ppmv
- All waste gas flow to flare is acid gas (worst case scenario)

$$\therefore$$
 V_{tf} = 11.484 Mscf/hr + 0.75 Mscf/hr = 12.234 Mscf/hr

However, only considering acid gas flow to flare:

$$V_{tf} = V_{aq} = 11.484 \text{ Mscf/hr}$$

Molar H₂S rate of acid gas to flare:

$$n_{H2S}$$
 = (802,000 ft³/10⁶ ft³)(11,484 ft³/hr)(1 mole/359ft³)(1 hr/60 min)
 n_{H2S} = 0.428 moles/min

Stoichiometric equation for the combustion of H₂S:

$$H_2S + 3/2 O_2 \rightarrow SO_2 + H_2O$$

Therefore, from stoichiometry (1:1 H₂S:SO₂ ratio) and assuming complete combustion of H₂S, mass rate of SO₂ is:

$$m_{SO2} = (0.428 \text{ moles H}_2\text{S/min})(1 \text{ mole SO}_2/1\text{mol H}_2\text{S})(64.1 \text{ lb SO}_2/1\text{bmol SO}_2)$$

$$\therefore m_{SO2} = 27.4 \text{ lb/min}$$

Waste gas minute by minute flow rate (mscfph) to Area 3 flare:

Date	Time	Flow Rt.	Date	Time	Flow Rt.
	hh:mm	mscf/hr		hh:mm	mscf/hr
31-Dec-96	14:30	2.333	31-Dec-96	14:58	15.334
31-Dec-96	14:31	2.333	31-Dec-96	14:59	15.334
31-Dec-96	14:32	2.333	31-Dec-96	15:00	15.667
31-Dec-96	14:33	2.333	31-Dec-96	15:01	15.667
31-Dec-96	14:34	2.333	31-Dec-96	15:02	15.667
31-Dec-96	14:35	2.333	31-Dec-96	15:03	15.667
31-Dec-96	14:36	2.333	31-Dec-96	15:04	15.834
31-Dec-96	14:37	2.333	31-Dec-96	15:05	15.834
31-Dec-96	14:38	2.333	31-Dec-96	15:06	15.834
31-Dec-96	14:39	2.333	31-Dec-96	15:07	15.667
31-Dec-96	14:40	2.333	31-Dec-96	15:08	15.667
31-Dec-96	14:41	2.333	31-Dec-96	15:09	15.334
31-Dec-96	14:42	2,333	31-Dec-96	15:10	15.001
31-Dec-96	14:43	2.333	31-Dec-96	15:11	15.001
31-Dec-96	14:44	2.333	31-Dec-96	15:12	10.000
31-Dec-96	14:45	2.333	31-Dec-96	15:13	9.000
31-Dec-96	14:46	2.000	31-Dec-96	15:14	10.334
31-Dec-96	14:47	2.167	31-Dec-96	15:15	10.834
31-Dec-96	14:48	2.000	31-Dec-96	15:16	9.000
31-Dec-96	14:49	9.667	31-Dec-96	15:17	4.834
31-Dec-96	14:50	12.667	31-Dec-96	15:18	2.667
31-Dec-96	14:51	14.001	31-Dec-96	15:19	1.833
31-Dec-96	14:52	15.001	31-Dec-96	15:20	1.500
31-Dec-96	14:53	15.667	31-Dec-96	15:21	1.167
31-Dec-96	14:54	15.834	31-Dec-96	15.22	1.167
31-Dec-96	14:55	15.834	31-Dec-96	15:23	1.167
31-Dec-96	14:56	15.334	31-Dec-96	15:24	1.167
31-Dec-96	14:57	15.167	31-Dec-96	15:25	1.500

Bold indicates flaring episode.

Avg. waste gas flow during flaring episode = 13.817 Mscf

Net avg. acid gas flow during flaring episode = 13.817 - 2.333 = 11.484 Mscf/hr



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

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February 4, 1997

Certified Mail P 878 312 686

RFCEIVED

Chemical Emergency Planning
& Response Commission (CEPRC)
2800 Meadowview Road

2800 Meadowview Road Sacramento, California 95832 Air & Toxics Division U.S. EPA, Region 9

FEB 1 0 1997

Subject: Section 304 Reports, OES Control No. 97-0501

Dear Sir or Madam:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form" pertaining to the February 2, 1997 release of sulfur dioxide from the Area 3 Flare.

TRMI made initial notification to the Office of Emergency Services of a potentially reportable release of sulfur dioxide on February 3, 1997, based on the best available information at the time. However, please note that since the initial notification was made, TRMI has further determined that the release of sulfur dioxide was below the reportable release quantity of 500 pounds.

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

Enclosure

c: JAWenker - UCP

Kern County Environmental Health (LEPC)
Kern County Hazmat Response (RMP)
Mr. David Howecamp - USEPA

AMBurke, LGDavis, DABeck, EXSekiguchi, BkP

EXS/rec

File: 34040-104 q:\exs\0202_dcu.doc

FACILITY INFORMATION

Location of Release:

Texaco Refining and Marketing Inc.

Bakersfield Plant 3663 Gibson Street

Bakersfield, CA 93308

Facility Emergency Contact:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RELEASE INFORMATION

Name and CAS Number of Substance Released: Sulfur Dioxide CAS # 7446-09-5

Extremely Hazardous: Yes

Physical State Stored: Gas

Date/Time of Release:02/02/97 03:00 PM

Quantity Released: 172.9 lbs.

ur Dioxide CAS # 7446-09-5

Contamination Pathway: Air Physical State Released: Gas

Duration of Release: 0 Days 4 Hours 0 Minutes

NOTIFICATIONS

Agency	Notification Date/Time	Control Number	Agency Contact Person
National Response Center	NA		
Office of Emergency Services	02/03/97 07:35 PM	97-0501	Bill Pennington
Dept. of Environmental Health	02/03/97 07:45 PM	NA	Marty Brownfield

TRMI submitted a Breakdown Report to the SJVUAPCD: Yes

CAUSE OF RELEASE AND ACTIONS TAKEN

Start-up of Delayed Coker Unit (DCU) after shutdown to repair crack in fractionator.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

Emergency variance was submitted to SJVUAPCD.

Initial notification was based on best available information which indicated the sulfur dioxide release was greater than the reportable quantity of 500 lbs. However, subsequent information revealed that the actual sulfur dioxide release was below the reportable quantity.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Réporting Facility Representative (print or type)

Anita M. Burke for TRMI Bakersfield Plant

Signature of Reporting Facility Representative

with for TRMI Bakersfield Plant [

Date 2.6.95

Estimation of SO₂ Emissions During Acid Gas Flaring Episode 2/2/97 Area 3 DCU Start-Up

Acid gas flow to flare (TAG Nos. 35F397 and 36F391) from 15:00 to 16:00:

Vag =acid gas flow rate, Mscf/hr

 $V_{ag} = 4.823 \text{ Mscf/hr}$

Assumptions:

- All waste gas flow to flare is acid gas (worst case scenario)
- H₂S completely combusts to SO₂ (1:1 mole ratio of H₂S:SO₂)

Lab analysis of startup gas to flare:

- H₂S content of of gas sent to flare is 5.74 percent (57,400 ppm)

Molar H₂S rate of acid gas to flare:

 $n_{H2S} = (57,400 \text{ ft}^3/1 \times 10^6 \text{ ft}^3)(4.823 \text{ Mscf/hr})(1,000 \text{ ft}^3/\text{Mscf})(1 \text{ mole}/359 \text{ft}^3)(1 \text{ hr}/60 \text{ min})$

 $n_{H2S} = 0.013 \text{ moles/min}$

Stoichiometric equation for the combustion of H₂S:

$$H_2S + 3/2 O_2 \rightarrow SO_2 + H_2O$$

Therefore, from stoichiometry (1:1 H₂S:SO₂ ratio) and assuming complete combustion of H₂S, mass rate of SO₂ is:

 $m_{SO2} = (0.013 \text{ moles H}_2\text{S/min})(1 \text{ mole SO}_2/1\text{mol H}_2\text{S})(64.1 \text{ lb SO}_2/1\text{bmol SO}_2)$

 $\therefore m_{SO2} = 0.82 \text{ lb/min}$

Gross SO_2 released during flaring (15:00 ~ 16:00) = 0.82 lb/min x 60 min = 49.4 lb

Net SO₂ released (less 25.0 SO₂ bubble limit) = 24.4 lb

See accompanying summary table for other hourly periods.

02-02-97 DCU Start-up Flaring Summary for SO₂ Emissions

Time Period	(35F397) Acid Gas Rate, Mscf/hr	(36F391) Acid Gas Rate, Mscf/hr	Total Acid Gas Rate, Mscf/hr	Gross SO ₂ Emissions, Ibs	Net* SO ₂ Emissions, Ibs
15:00 ~ 16:00	4.823	0	4.823	49.4	24.4
16:00 ~ 17:00	4.828	0	4.828	49.5	24.5
17:00 ~ 18:00	9.507	0	9.507	97.4	72.4
18:00 ~ 19:00	7.465	0	7.465	76.5	51.5
Total SO ₂ Releas	ed, Ibs			272.9	172.9

^{*} Net SO_2 emission are gross SO_2 emssions less 25.0 lb/hr Area 3 SO_2 bubble limit.



Texaco Refining & Marketing Inc Post Office Box 1476 Bakersfield CA 93302 805 326 4232

> Certified Mail P 878 312 694

March 3, 1997

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control No. 970846

Dear Sir or Madam:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form" pertaining to the January 27, 1997 reportable release of sulfur dioxide from the Area 3 Flare during the Delayed Coker Unit (DCU) shutdown.

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

Enclosure

c: JAWenker - UCP
Kern County Environmental Health (LEPC)
Kern County Hazmat Response (RMP)

Ms. Julie Anderson c/o Lauren Volpini
AMBurke-LGDavis-EXSekiguchi - BkP

EXS/rec File: 34040-104 q:\exs\0127_304.doc Delay of s

FACILITY INFORMATION

Location of Release:

Texaco Refining and Marketing Inc.

Bakersfield Plant 3663 Gibson Street

Bakersfield, CA 93308

Facility Emergency Contact:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RELEASE INFORMATION

Name and CAS Number of Substance Released: Sulfur Dioxide CAS # 7446-09-5

Extremely Hazardous: Yes Physical State Stored: Gas

Date/Time of Release:01/27/97 07:00 PM

Quantity Released: 861.2 lbs.

Contamination Pathway: Air Physical State Released: Gas

Duration of Release: 0 Days 4 Hours 0 Minutes

NOTIFICATIONS

Agency	Notification Date/Time	Control Number	Agency Contact Person
National Response Center	02/27/97 08:30 AM	378303	Petty Officer Garneau
Office of Emergency Services	02/27/97 08:45 AM	970846	Dacia Young
Dept. of Environmental Health	02/27/97 09:55 AM	NA	Marty Brownfield

TRMI submitted a Breakdown Report to the SJVUAPCD: Yes

CAUSE OF RELEASE AND ACTIONS TAKEN

The Delayed Coker Unit (DCU) was shutdown to repair a crack in the fractionator. Consequently, acid gas was diverted to the flare to bring the unit down safely.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

Emergency variance was submitted to SJVUAPCD.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type)

Anita M. Burke for TRMI Bakersfield Plant

Signature of Reporting Facility Representative

RMI Bakersfield Plant Date 3.5.97



GOVERNOR'S OFFICE OF EMERGENCY SERVICES Hazardous Materials Spill Report

DATE: 02/03/97	DEC	EIVED BY:	, 1 .	CONTROL#:	
TIME: 1939		Pennington		97-0501	
1. PERSON NOTIFY		<u>.</u>		197-0301	
a. NAME:	b. AGE		c. PHONE#:	d. Ext: e. PAG	CELL.
Ugene Sekiguchi		co Refining	805 326 4200	C EXI. G.I AG	CELL.
Seure periguent	10,2	·	803 320 4200		
. RESPONSIBLE P.	ARTY:				
. NAME:	b. AGE		c. PHONE#:	d. EXT.:	
Jgene Sekiguchi		co Refining	805 326 4200		
. INCIDENT LOCA	TION: 3663 G	ibson St			
. CITY:		f. COUNTY:	g :2	ZIP	
Bakersfield		Kem County	93:	308	
. MAIL ADDRESS:		i. CITY:	j. S.	ΓATE: k. Zì	P:
PO Box 1476		Bakersfield	CA	9330	2
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2.	=				***************************************
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Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

March 5, 1997

Certified Mail P 878 312 693

Chemical Emergency Planning & Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control No. 97-0501

Dear Sir or Madam:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, transmitted a "Emergency Release Follow-up Notice Reporting Form" on February 4, 1997, pertaining to the February 2, 1997, release of sulfur dioxide from the Area 3 Flare during the start-up of the Delayed Coker Unit (DCU).

TRMI made initial notification to the Office of Emergency Services of a potentially reportable release of sulfur dioxide on February 3, 1997. In the February 4, 1997, follow-up report, TRMI stated that the release of sulfur dioxide was below the reportable release quantity of 500 pounds, based on the best available information at the time. However, upon further investigation of the DCU start-up, TRMI has determined that the release of sulfur dioxide was indeed greater than the reportable release quantity of 500 pounds.

If you have any questions regarding this form, please contact Ms. Linda Davis at (805) 326-4522.

Sincerely,

A. S. Abay

Enclosure

c: JAWenker - UCP
Kern County Environmental Health (LEPC)
Kern County Hazmat Response (RMP)
Ms. Julie Anderson c/o Lauren Volpini
AMBurke-LGDavis-EXSekiguchi-BkP

EXS/rec

File: 34040-104 q:\exs\0202_dc2.doc

FACILITY INFORMATION

Location of Release:

Texaco Refining and Marketing Inc. .

Bakersfield Plant

3663 Gibson Street

Bakersfield, CA 93308

Facility Emergency Contact:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RELEASE INFORMATION

Name and CAS Number of Substance Released: Sulfur Dioxide CAS # 7446-09-5

Extremely Hazardous: Yes

Physical State Stored: Gas

Date/Time of Release:02/02/97 03:00 PM

Quantity Released: 3,508 lbs.

Contamination Pathway: Air Physical State Released: Gas

Duration of Release: 0 Days 4 Hours 0 Minutes

NOTIFICATIONS

Agency	Notification Date/Time	Control Number	Agency Contact Person
National Response Center	NA		
Office of Emergency Services	02/03/97 07:35 PM	97-0501	Bill Pennington
Dept. of Environmental Health	02/03/97 07:45 PM	NA	Marty Brownfield

TRMI submitted a Breakdown Report to the SJVUAPCD: Yes

CAUSE OF RELEASE AND ACTIONS TAKEN

Start-up of Delayed Coker Unit (DCU) after shutdown to repair crack in fractionator.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

Emergency variance was submitted to SJVUAPCD.

Initial notification was based on best available information which indicated the sulfur dioxide release was greater than the reportable quantity of 500 lbs. Subsequent information appeared to indicate that the actual sulfur dioxide release was below the reportable quantity. However, final information revealed that the actual sulfur dioxide release was greater than the reportable quantity.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type) Anita M. Burke for TRMI Bakersfield Plant Signature of Reporting Facility Representative MUL for TRMI Bakersfield Plant Date 3.6.97

Estimation of SO₂ Emissions During Acid Gas Flaring Episode 2/2/97 Area 3 DCU Start-Up

Acid gas flow to flare (TAG Nos. 35F397 and 36F391) from 15:00 to 16:00:

Vag =acid gas flow rate, Mscf/hr

 $J_{aq} = 4.8 \text{ N}$

4.8 Mscf/hr

Assumptions:

- All waste gas flow to flare is acid gas (worst case scenario)
- H₂S completely combusts to SO₂ (1:1 mole ratio of H₂S:SO₂)
- H₂S content of of gas sent to flare is 802,000 ppm

Molar H₂S rate of acid gas to flare:

 $n_{H2S} = (802,000 \text{ ft}^3/1 \times 10^6 \text{ ft}^3)(4.8 \text{ Mscf/hr})(1,000 \text{ ft}^3/\text{Mscf})(1 \text{ mole}/379 \text{ft}^3)(1 \text{ hr}/60 \text{ min})$

 $n_{H2S} = 0.169 \text{ moles/min}$

Stoichiometric equation for the combustion of H₂S:

 $H_2S + 3/2 O_2 \rightarrow SO_2 + H_2O$

Therefore, from stoichiometry (1:1 H₂S:SO₂ ratio) and assuming complete combustion of H₂S, mass rate of SO₂ is:

 $m_{SO2} = (0.169 \text{ moles H}_2\text{S/min})(1 \text{ mole SO}_2/1\text{mol H}_2\text{S})(64.1 \text{ lb SO}_2/1\text{bmol SO}_2)$

 $\therefore m_{SO2} = 10.85 \text{ lb/min}$

Gross SO_2 released during flaring (15:00 ~ 16:00) = 10.85 lb/min x 60 min

651.1 lb.

Net SO₂ released (less 25.0 SO₂ bubble limit) =

626.1 lb

See accompanying summary table for other hourly periods.

02-02-97 DCU Start-up Flaring Summary for SO₂ Emissions

Time Period	(35F397) Acid Gas Rate, Mscf/hr	(36F391) Acid Gas Rate, Mscf/hr	Total Acid Gas Rate, Mscf/hr	Gross SO ₂ Emissions, Ibs	Net* SO ₂ Emissions, Ibs
15:00 ~ 16:00	4.8	0	4.8	651.1	626.1
16:00 ~ 17:00	4.8	o	4.8		626.1
17:00 ~ 18:00	9.5	O	9.5	1288.6	
18:00 ~ 19:00	7.5		7.5	1017.3	1200.0
Total SO ₂ Releas	ed lbs		7.5		
	,			3,608	3,508

 $^{^{\}star}$ Net SO₂ emission are gross SO₂ emssions less 25.0 lb/hr Area 3 SO₂ bubble limit.



Texaco Refining & Marketing Inc

Post Office Box 1476 Bakersfield CA 93302 805 326 4232

Certified Mail P 878312654

September 11, 1997

Chemical Emergency Planning and Response Commission (CEPRC) 2800 Meadowview Road Sacramento, California 95832

Subject: Section 304 Reports, OES Control No. 973407

Dear Sir or Madam:

As required by the Office of Emergency Services, Texaco Refining and Marketing, Inc. (TRMI), Bakersfield Plant, hereby transmits the enclosed "Emergency Release Follow-up Notice Reporting Form" pertaining to the September 2, 1997 reportable release of sulfur dioxide from the Area 3 Flare during a facility power outage.

If you have any questions regarding this form, please contact Mr. Ken Comey at (805) 326-4557.

Sincerely,

A. S. Abay

Enclosure

c: JAWenker - UCP

Mr. Marty Brownfield - Kern County Environmental Health (LEPC)

Kern County Hazmat Response (RMP)

Ms. Julie Anderson c/o Lauren Volpini CM P 878 312 537

KRComey, EXSekiguchi, CLTaylor, BkP

CLT TRMI Central File#: 750,401 q:\clt\complian\9-02 304.doc

FACILITY INFORMATION

Location of Release:

Texaco Refining and Marketing Inc.

Bakersfield Plant

3663 Gibson Street

Bakersfield, CA 93308

Facility Emergency Contact:

Ms. Anita M. Burke

Manager Environment, Health and Safety

Phone: (805) 326-4200

RELEASE INFORMATION

Name and CAS Number of Substance Released: Sulfur Dioxide CAS # 7446-09-5

Extremely Hazardous: Yes

Physical State Stored: Gas

Date/Time of Release:09/02/97 05:40 AM

Quantity Released: 2,644 lbs.

Contamination Pathway: Air

Physical State Released: Gas

Duration of Release: 0 Days 5 Hours 0 Minutes

NOTIFICATIONS

Agency	Notification Date/Time	Control Number	Agency Contact Person
National Response Center	NA		
Office of Emergency Services	09/02/97 09:05 AM	97-3407	Chris Jensen
Dept. of Environmental Health	09/02/97 12:00 AM	ŅΑ	Marty Brownfield

TRMI submitted a Breakdown Report to the SJVUAPCD: Yes

CAUSE OF RELEASE AND ACTIONS TAKEN

Power failure in Area 3 caused the shutdown of process units. Process upset gas was flared, resulting in excess emissions of SO2 from the flare. The units were restarted once the power was fully restored.

KNOWN OR ANTICIPATED HEALTH EFFECTS

Gas is irritating to the eyes, nose and throat, and has an irritating odor. Exposure to high concentrations can result in pulmonary edema. There were no known health effects resulting from this release. TRMI has no information to indicate that any individuals were exposed to irritating concentrations.

ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS

Give immediate respiratory attention. TRMI has no information to indicate that any individuals were exposed or required medical attention.

COMMENTS

An Emergency Variance application was submitted to the SJVUAPCD. However, the application was withdrawn because compliance with all state and local operating requirements was achieved within 24 hours of the time of initial breakdown.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the submitted information is true, accurate and complete.

Reporting Facility Representative (print or type)

Anita M. Burke for TRMI Bakersfield Plant

Signature of Reporting Facility Representative

Ufor TRMI Bakersfield Plant Date 9.15-97